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Crude Oil Depletion

The energy crisis, more specifically crude oil depletion, is a sustainability problem that needs little introduction. The International Energy Agency [predicted](#) that world oil production would steadily and irreversibly decline at some time between 2010 and 2012, while most other relevant researches are estimating a time prior to 2015. To put it more blatantly, we theoretically either have passed or are in the process of passing the global oil production peak. In fact, production at some of the largest oilfields [have already peaked](#) in Kuwait, Russia, United Kingdom, Norway, and Mexico. Once crude oil production reaches its home stretch, the severity of the damage is magnitudes higher than anyone could've imagined, since our world today is unbelievably dependent on petroleum.

Owing to the fact that the transportation sector arguably [consumes the most oil and has the most adverse impact on the environment](#), many solutions have been proposed in the past few decades to alleviate the dependency on fossil fuels. For examples, natural gas, biofuel, and hydrogen have all been suggested to become gasoline substitutes. Swapping the internal combustion engines out for electric motors represents another major approach. However, few of these experimental technologies have seen much success in the heart of the transportation industry due to resistance contributed by technical unfamiliarity, steep initial costs, and [questionable benefits](#).

Additionally, each technology has its own drawbacks. First of all, natural gas is still a form of limited, greenhouse gas-emitting fossil fuel. Even though it has a more abundant reserve, researchers predict it will sustain the world for [64 years](#) at the current rate of consumption. Secondly, [biofuel](#)'s production heavily depends on the climate and food economy. In some places, dividing agricultural land to grow crops for biofuel production can potentially tax the food chain and lead to food supply shortages. Moreover, burning biofuel has been found to emit more environmentally adverse gases like nitrogen oxide, and more has to be consumed due to its lower heating value than fossil diesel fuel.

Amid the contest to become "the next big thing" in the transportation industry, plug-in gas-electric hybrids and electric vehicles slowly prevail as the more popular and promising alternatives. Unfortunately, they are not free of problems, either. Although electric cars do not directly consume fossil fuels, they may still rely on fossil fuels to generate the electricity they need. Also, there are some technological, behavioral, and economical barriers electric vehicles have to hurdle on their way to dominating the transportation world tomorrow. With the current battery technologies, the equipped vehicles can only travel so far in between lengthy recharges. An omnipresent charging station network requires a lot of time and funding to mature, assuming the charging technologies are no longer proprietary to the electric vehicles's manufacturers. Due to the need for meticulous plan prior to every trip and frequent recharges, drivers of electric vehicles must learn to keep range anxiety at bay and adapt some of their driving [behaviors](#). Lastly, as it stands right now, improved internal combustion engine-powered

cars represent a much [more economically appealing](#) alternative to pure electric vehicles.

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